**Session 3- Geometry and Measurement**

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| **TIME** | AGENDA | VOCAB | RESOURCES |
| **4:00** | * Welcome/Intro * Questions about homework |  |  |
| **4:15** | **Attributes of Geometric Shapes**  Begin this session by doing *Shape Sorts* (Activity 20.1 in VDW.) Encourage teachers to think like their students as they discuss the attributes of the different shapes. |  | Assorted Shapes 41-47 |
| **4:45** | **Attributes of triangles**  The following websites have interactive activities to help you guide teachers through the process of discovering the attributes of triangles. Be sure to model how each one works and allow teachers to play with them as you ask the questions.  <http://illuminations.nctm.org/ActivityDetail.aspx?ID=9>  *\*This applet is great to help teachers explore the relationships between interior angles. For this portion of the lesson, you will want to keep them focused on triangles, as you will be using this again later while exploring other polygons.*  <http://www.mathopenref.com/triangleextangle.html>  *\*This interactive site allows you to manipulate a triangle and discover what happens to the exterior angles.*  While teachers explore, engage the group in a discussion about what they notice about:   * The sum of angles in a triangle * The sum of the non-right angles of a right triangle * The exterior angles of a triangle * The base angles of an isosceles triangle * The angles of an equilateral triangle |  | computers |
| **5:15** | **Classifying triangles and symmetry of triangles**  Begin this section by asking the following questions of students:  *Can any three lengths be the sides of a triangle? Why or why not?*  Distribute the [What's Important about Triangles?](http://illuminations.nctm.org/lessons/buildingtriangles/Triangles-AS-WhatsImportant.pdf) activity sheet to each student. Students measure, fold, and tape each strip to make a triangle, if possible.  During a class discussion, ask students to tell what happened when they made the triangles:   * Which measurements were possible? * What discoveries were made about the lengths of the sides of the triangles?   Could you categorize the triangles as equilateral, isosceles, or scalene?  *\*This activity was taken from the Illuminations website. For more information:* <http://illuminations.nctm.org/LessonDetail.aspx?ID=L795>  If time allows, use the Assorted Triangles sheet to identify the different types of triangles. |  | Triangles- What’s Important  Assorted Triangles |
| **6:00** | **BREAK** |  |  |
| **6:15** | **Attributes of quadrilaterals**  Use the Activity, *Property Lists for Quadrilaterals* (Activity 20.2 in VDW.) Encourage teachers to work as a group to be as thorough as possible.  As the groups present, make sure to highlight the relationship between the opposite angles in a parallelogram.  As a whole class, go through the same process discussing the properties of a trapezoid, highlighting the relationship of the interior angles between two parallel sides. |  | Property List for Quadrilaterals |
| **7:00** | **Regular Polygons**  Now that we have explored the properties of triangles and quadrilaterals, teachers are ready to discover the special properties of Regular Polygons.  Use the Angle Sums applet to show the measurements of the interior angles.  <http://illuminations.nctm.org/ActivityDetail.aspx?ID=9>  **Additional Activities:**  If time allows, you may also choose to use the following activities:  Adding It Up-<http://illuminations.nctm.org/LessonDetail.aspx?id=L765>  Polygon Capture- <http://illuminations.nctm.org/lessonDetail.aspx?id=L270> |  | Adding It Up  w/Answer sheet  Polygon Capture  Polygons, Cards, and Rules |
| **7:45** | **Homework**   * READING: Beckman Hardback pp 599-602 * Journal- Reflection on tonight’s lesson |  |  |